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EXAMINER

COLON, CATHERINE M

ART UNIT

PAPER NUMBER

3623

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/401,439

Applicant(s)

FAYYAD ET AL.

Examiner

C. Michelle Colon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 17, 19 - 29, 31 - 39, 41 - 52, 54, 58 - 62 and 64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. The following is a Non-final Office Action in response to the communication received on May 28, 2002. Claims 18, 30, 40, 53, 55 – 57 and 63 have been cancelled. Claims 1 – 7, 9 – 12, 19, 21, 31, 41, 44, 47, 51, 54, 58 – 61 and 64 have been amended. Claims 1 – 17, 19 – 29, 31 – 39, 41 – 52, 54, 58 – 62 and 64 are now pending in this application.

Response to Amendment

2. Applicant's amendments are sufficient to overcome the claim objections as set forth in the previous Office Action; therefore the claim objections are withdrawn.

Applicant's amendments are sufficient to overcome the drawing objections as set forth in the previous Office Action; therefore the drawing objections are withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 7, 14, 16, 17, 19 – 21, 28, 29 and 58 – 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thearling (U.S. 6,240,411) and Wrobel (U.S. 6,154,739).

As per claim 1, Thearling discloses a method for managing a marketing campaign, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data and on additional data (col. 1, line 51 – col. 2, line 28; col. 8, lines 12 – 21; Figures 1 – 3);

providing a user database defining the observed characteristics of each one of a set of users, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences (col. 3, lines 1 – 10; col. 5, lines 24 – 35);

training the data mining engine with a set of training data comprising the user data base (col. 1, lines 51 – 65; col. 2, line 66 – col. 3, line 5; col. 8, lines 12 – 21);

inputting to the data mining engine a predetermined characteristic pertaining to the marketing campaign and, in response thereto, obtaining from the data mining engine a subset of the users in the data base having the highest correlation to the characteristic (col. 3, lines 7 – 31).

Thearling does not expressly disclose clustering the user database into different segments of users distinguished by different states of a characteristic; or determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic.

Wrobel discloses clustering the user database into different segments of users distinguished by different states of a characteristic (col. 2, lines 13 – 17; col. 5, lines 30 – 32; Figure 6; The reference discloses clustering a user database into different groups

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based on differences of a characteristic.); and determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic (col. 1, lines 8 – 18 and 50 – 56; col. 2, lines 18 – 33; The reference discloses determining which cluster groups have the highest statistical correlation to the predetermined characteristic.).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply clustering techniques to user databases because doing so allows marketing campaigns to identify users who have a predisposition to behave or react in a certain manner, which enables marketing campaigns to effectively and efficiently target the users who will react favorably to the marketing campaigns, thus making the marketing campaigns successful (Wrobel, col. 1, line 66 – col. 2, line 5).

As per claim 2, Thearling discloses the method of claim 1 wherein inputting to the data mining engine comprises inputting a predetermined set of characteristics pertaining to the marketing campaign (col. 1, lines 52 – 65; col. 2, lines 12 – 23 and lines 47 – 57; Figures 1B and 2; The reference discloses inputting a predetermined set of characteristics (i.e., the “model”) to the data mining engine (i.e., the “model engine”).).

As per claim 3, Thearling discloses the method of claim 2 wherein the predetermined set of characteristics comprises a predetermined set of user attributes (col. 3, lines 1 – 5 and lines 58 – 65; Figure 3; The reference discloses predetermined user attributes such as age and income.).

As per claim 4, Thearling discloses the method of claim 3 wherein the predetermined set of user attributes constitutes user attributes likely to pertain to a

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product to which the marketing campaign is directed (col. 2, lines 12 – 23; col. 4, lines 25 – 28; The reference discloses analyzing user attributes to determine the probability that a customer would respond favorably to a mailing.).

As per claim 5, Thearling discloses the method of claim 4 further comprising:
determining in the data mining engine a set of prevalent attributes of the subset of users (col. 1, lines 51 – 65);

defining a target database of users and determining in the data mining engine a target subset of users in the target data base statistically correlated to the set of prevalent attributes (col. 2, lines 12 – 23 and 47 – 65).

As per claim 6, Thearling discloses the method of claim 5 wherein the target database comprises the user database with which the data mining engine has been trained (col. 2, line 54 – col. 3, line 10; The reference discloses a target database (i.e., “modified” database) that comprises the user database with which the data mining engine (i.e., “model” engine) has been trained.).

As per claim 7, Thearling discloses the method of claim 5 wherein the target database comprises an additional database not included in the user data base, the additional data base defining characteristics of a set of new users (col. 3, lines 1 – 23; The reference discloses creating additional database tables defining characteristics of a set of new users.).

As per claim 14, Thearling discloses the method of claim 1 wherein the predetermined characteristic comprises one of: (a) a user attribute, (b) a user preference (col. 3, lines 1 – 10; col. 5, lines 24 – 35).

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As per claim 16, Thearling discloses the method of claim 1 further comprising:
determining, in the data mining engine, a complete set of statistically prevalent user attributes of the subset of users (col. 2, lines 12 – 20; col. 2, line 54 – col. 3, line 10);

for any member of the subset of users having certain attributes which are undetermined in the user data base, filling in the certain undetermined attributes with the corresponding ones of the complete set of statistically prevalent user attributes of the subset of users (col. 4, lines 25 – 35).

As per claim 17, Thearling discloses the method of claim 5 further comprising:
for any member of the target subset of users having certain attributes which are undetermined, filling in the certain undetermined attributes with the corresponding ones of the set of prevalent user attributes of the subset of users (col. 4, lines 25 – 35).

As per claim 19, Thearling discloses the method of claim 1 wherein clustering comprises:

providing with a visualization tool a tabulation of characteristics of each user group with the probability of each characteristic in the user group (col. 10, line 20 – col. 11, line 14; Figure 8).

Thearling does not expressly disclose clusters or labeling each cluster with a statistically predominant characteristic thereof in accordance with the tabulation.

Wrobel discloses clusters and labeling each cluster with a statistically predominant characteristic thereof in accordance with the tabulation (col. 2, lines 13 – 33).

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At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply clustering techniques to user databases and label each cluster with a statistically predominant characteristic thereof in accordance with the tabulation because doing so allows marketing campaigns to identify users who have a predisposition to behave or react in a certain manner, which enables marketing campaigns to effectively and efficiently target the users who will react favorably to the marketing campaigns, thus making the marketing campaigns successful (Wrobel, col. 1, line 66 – col. 2, line 5).

As per claim 20, Thearling does not expressly disclose the method of claim 19 wherein the statistically predominant characteristic of each cluster distinguishes the cluster from the other clusters.

Wrobel discloses the statistically predominant characteristic of each cluster distinguishing the cluster from the other clusters (col. 2, lines 18 – 48; The reference discloses distinguishing clusters from each other based on statistically predominant characteristics.).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to distinguishing clusters from each other based on statistically predominant characteristics because doing so allows marketing campaigns to identify users who have a predisposition to behave or react in a certain manner, which enables marketing campaigns to effectively and efficiently target the users who will react favorably to the marketing campaigns, thus making the marketing campaigns successful (Wrobel, col. 1, line 66 – col. 2, line 5).

As per claim 21, Thearling discloses a method of personalizing marketing resources, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data (col. 1, line 51 – col. 2, line 28; col. 8, lines 12 – 21; Figures 1 – 3);

providing a user data base correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences (col. 3, lines 1 – 10; col. 5, lines 24 – 35);

training the data mining engine with a set of training data comprising the user database (col. 1, lines 51 – 65; col. 2, line 66 – col. 3, line 5; col. 8, lines 12 – 21);

inputting to the data mining engine a set of user attributes of one of: (a) a particular user, (b) a particular group of users; and, in response thereto,

obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes (col. 3, lines 7 – 31).

Thearling does not expressly disclose clustering the user database into different segments of users distinguished by different states of a characteristic; or determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic; or having the subset of marketing features be determined based upon the preferences of the segments statistically correlated to the set of user attributes.

Wrobel discloses clustering the user database into different segments of users distinguished by different states of a characteristic (col. 2, lines 13 – 17; col. 5, lines 30 – 32; Figure 6; The reference discloses clustering a user database into different groups based on differences of a characteristic.); determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic (col. 1, lines 8 – 18 and 50 – 56; col. 2, lines 18 – 33; The reference discloses determining which cluster groups have the highest statistical correlation to the predetermined characteristic.); and having the subset of marketing features be determined based upon the preferences of the segments statistically correlated to the set of user attributes (col. 2, lines 1 – 9).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply clustering techniques to user databases because doing so allows marketing campaigns to identify users who have a predisposition to behave or react in a certain manner, which enables marketing campaigns to effectively and efficiently target the users who will react favorably to the marketing campaigns, thus making the marketing campaigns successful (Wrobel, col. 1, line 66 – col. 2, line 5).

As per claim 28, Thearling discloses the method of claim 21 wherein the marketing features comprise a set of different potential features of a direct mailing (col. 4, lines 25 – 35).

As per claim 29, Thearling discloses the method of claim 21 wherein the marketing features comprise a set of different potential features of a common promotion (col. 3, lines 24 – 31).

As per claim 58, Thearling discloses a machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data and on future additional (col. 1, line 51 – col. 2, line 28; col. 8, lines 12 – 21; Figures 1 – 3);

providing a user database defining the observed characteristics of each one of a set of users, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences (col. 3, lines 1 – 10; col. 5, lines 24 – 35);

training the data mining engine with a set of training data comprising the user database (col. 1, lines 51 – 65; col. 2, line 66 – col. 3, line 5; col. 8, lines 12 – 21);

inputting to the data mining engine a predetermined characteristic pertaining to the marketing campaign and, in response thereto, obtaining from the data mining engine a subset of the users in the data base having the highest correlation to the characteristic (col. 3, lines 7 – 31).

Thearling does not expressly disclose clustering the user database into different segments of users distinguished by different states of a characteristic; or determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic.

Wrobel discloses clustering the user database into different segments of users distinguished by different states of a characteristic (col. 2, lines 13 – 17; col. 5, lines 30

– 32; Figure 6; The reference discloses clustering a user database into different groups based on differences of a characteristic.); and determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic (col. 1, lines 8 – 18 and 50 – 56; col. 2, lines 18 – 33; The reference discloses determining which cluster groups have the highest statistical correlation to the predetermined characteristic.).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply clustering techniques to user databases because doing so allows marketing campaigns to identify users who have a predisposition to behave or react in a certain manner, which enables marketing campaigns to effectively and efficiently target the users who will react favorably to the marketing campaigns, thus making the marketing campaigns successful (Wrobel, col. 1, line 66 – col. 2, line 5).

As per claim 59, Thearling discloses a machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data (col. 1, line 51 – col. 2, line 28; col. 8, lines 12 – 21; Figures 1 – 3);

providing a user database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences (col. 3, lines 1 – 10; col. 5, lines 24 – 35);

training the data mining engine with a set of training data comprising the user data base (col. 1, lines 51 – 65; col. 2, line 66 – col. 3, line 5; col. 8, lines 12 – 21);

inputting to the data mining engine a set of user attributes of one of: (a) a particular user, (b) a particular group of users; and, in response thereto,

obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes (col. 3, lines 7 – 31).

Thearling does not expressly disclose clustering the user database into different segments of users distinguished by different states of a characteristic; or determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic; or having the subset of marketing features be determined based upon the preferences of the segments statistically correlated to the set of user attributes.

Wrobel discloses clustering the user database into different segments of users distinguished by different states of a characteristic (col. 2, lines 13 – 17; col. 5, lines 30 – 32; Figure 6; The reference discloses clustering a user database into different groups based on differences of a characteristic.); determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic (col. 1, lines 8 – 18 and 50 – 56; col. 2, lines 18 – 33; The reference discloses determining which cluster groups have the highest statistical correlation to the predetermined characteristic.); and having the subset of marketing features be determined based upon the preferences of the segments statistically correlated to the set of user attributes (col. 2, lines 1 – 9).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply clustering techniques to user databases because doing so allows marketing campaigns to identify users who have a predisposition to behave or react in a certain manner, which enables marketing campaigns to effectively and efficiently target the users who will react favorably to the marketing campaigns, thus making the marketing campaigns successful (Wrobel, col. 1, line 66 – col. 2, line 5).

As per claim 60, Thearling discloses a machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data (col. 1, line 51 – col. 2, line 28; col. 8, lines 12 – 21; Figures 1 – 3);

providing a user database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) user attributes, (b) user preferences (col. 3, lines 1 – 10; col. 5, lines 24 – 35);

training the data mining engine with a set of training data comprising the user database (col. 1, lines 51 – 65; col. 2, line 66 – col. 3, line 5; col. 8, lines 12 – 21);

inputting to the data mining engine a set of user attributes of the particular user, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes (col. 3, lines 7 – 31).

Thearling does not expressly disclose clustering the user database into different segments of users distinguished by different states of a characteristic; or determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic; or having the subset of marketing features be determined based upon the preferences of the segments statistically correlated to the set of user attributes.

Wrobel discloses clustering the user database into different segments of users distinguished by different states of a characteristic (col. 2, lines 13 – 17; col. 5, lines 30 – 32; Figure 6; The reference discloses clustering a user database into different groups based on differences of a characteristic.); determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic (col. 1, lines 8 – 18 and 50 – 56; col. 2, lines 18 – 33; The reference discloses determining which cluster groups have the highest statistical correlation to the predetermined characteristic.); and having the subset of marketing features be determined based upon the preferences of the segments statistically correlated to the set of user attributes (col. 2, lines 1 – 9).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply clustering techniques to user databases because doing so allows marketing campaigns to identify users who have a predisposition to behave or react in a certain manner, which enables marketing campaigns to effectively and efficiently target the users who will react favorably to the marketing campaigns, thus making the marketing campaigns successful (Wrobel, col. 1, line 66 – col. 2, line 5).

5. Claims 61 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thearling (U.S. 6,240,411) and Walter et al. (U.S. 6,334,110).

As per claim 61, Thearling discloses a method for managing a marketing campaign, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data (col. 1, line 51 – col. 2, line 28; col. 8, lines 12 – 21; Figures 1 – 3);

providing a user database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences (col. 3, lines 1 – 10; col. 5, lines 24 – 35);

training the data mining engine with a set of training data comprising the user database (col. 1, lines 51 – 65; col. 2, line 66 – col. 3, line 5; col. 8, lines 12 – 21);

first inputting to the data mining engine a predetermined characteristic pertaining to the marketing campaign and, in response thereto, obtaining from the data mining engine a subset of the users in the data base having the highest correlation to the characteristic (col. 2, lines 12 – 20; col. 3, lines 7 – 31); and

second inputting to the data mining engine a set of user attributes of the subset of the users, and in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes (col. 3, line 58 – col. 4, line 35);

Thearling does not expressly disclose monitoring observed responses to the marketing campaign cycle and updating the user database based upon the observed responses; and repeating the first and second inputting to obtain an updated subset of users and an updated subset of marketing features.

Walter et al. disclose monitoring observed responses to the marketing campaign cycle and updating the user database based upon the observed responses (col. 4, lines 14 – 30; col. 5, lines 31 – 33 and 60 – 64; col. 7, lines 14 – 18; Figures 2 and 9); and

repeating the first and second inputting to obtain an updated subset of users and an updated subset of marketing features (col. 2, lines 25 – 35 and 54 – 60; col. 4, lines 29 – 30; col. 7, lines 5 – 32; The reference discloses reusing data mining techniques for future marketing campaigns and therefore, repeating steps to obtain an updated subset of users and marketing features.).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to observe responses to the marketing campaign and repeat the first and second inputting to update the subset of users and marketing features because doing so refines and improves the effectiveness of the marketing campaign and therefore increases the opportunity for a business to make a sale (col. 7, lines 14 – 23; Figures 10 and 11).

As per claim 62, Thearling discloses the method of claim 61 further comprising:
conducting a marketing campaign cycle directed toward the subset of users and comprising the subset of marketing features (col. 3, lines 11 – 31).

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6. Claims 8 – 13, 15, 22 – 27, 31 – 39, 41 – 50 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thearling (U.S. 6,240,411) and Wrobel (U.S. 6,154,739) and further in view of Walter et al. (U.S. 6,334,110).

As per claim 8, Thearling and Wrobel disclose the method of claim 5 as applied above. Thearling further discloses conducting a marketing campaign cycle directed at the target subset of users (col. 3, lines 11 – 26).

Thearling does not expressly disclose observing responses of the target subset of users to the marketing campaign cycle.

Walter et al. disclose observing responses of the target subset of users to the marketing campaign cycle (col. 4, lines 15 – 18).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to observe responses of the target subset of users to the marketing campaign cycle because observing customer responses allows businesses to measure the effectiveness of their marketing campaigns and in turn, make any necessary alterations to the campaigns to improve their effectiveness (col. 4, lines 29 – 30; col. 7, lines 15 – 19).

As per claim 9, Thearling nor Wrobel expressly discloses the method of claim 8 further comprising:

forming a focused group of the target subset of users whose observed response was a particular type of response; determining, in the data mining engine, a group of prevalent characteristics of the focused group of users; defining a database to be mined and determining, in the data mining engine, a new set of users in the database to be

mined whose characteristics are statistically correlated with the group of prevalent characteristics.

Walter et al. disclose forming a focused group of the target subset of users whose observed response was a particular type of response (col. 4, lines 36 – 40; Figure 3);

determining, in the data mining engine, a group of prevalent characteristics of the focused group of users (col. 5, line 65 – col. 6, line 11; Figure 5);

defining a data base to be mined and determining, in the data mining engine, a new set of users in the data base to be mined whose characteristics are statistically correlated with the group of prevalent characteristics (col. 6, lines 13 – 15; Figures 6 and 7).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to form a focused group, determine a group of prevalent characteristics of the focused group, and define and determine a new set of users to be mined whose characteristics correlate with the group of prevalent characteristics because by performing the above steps, businesses can perform very accurate and targeted marketing (specific advertisements to specific individuals) which, in turn, would help to measure and improve the effectiveness of their marketing campaigns (col. 7, lines 21 – 32).

As per claim 10, Thearling discloses the method of claim 9 as applied above and further wherein the database to be mined comprises the user database with which the data mining engine was trained (col. 1, lines 51 – 65; col. 2, lines 54 – 57; col. 3, lines 1

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– 10). The invention as disclosed by Thearling utilizes and manipulates a user database in order to create a new database that is a subset (i.e., contains certain tables) of the original database based on certain criteria. Therefore, while the invention as disclosed by Thearling may utilize separate databases throughout the data mining process, all of those databases contain data (though more specific) from the same user database.

As per claim 11, Thearling discloses the method of claim 9 as applied above and further wherein the database to be mined comprises the target database of users (col. 2, line 54 – col. 3, line 10).

As per claim 12, Thearling discloses the method of claim 9 as applied above and further wherein the database to be mined comprises a new data base not included in either the user database nor in the target user database (col. 1, lines 51 – 65; col. 2, lines 54 – 57; col. 3, lines 1 – 10). The invention as disclosed by Thearling utilizes and manipulates a user database in order to create a new database that is a subset (i.e., contains certain tables) of the original database based on certain criteria. Therefore, while the invention as disclosed by Thearling may utilize separate databases throughout the data mining process, all of those databases contain data (though more specific) from the same user database.

As per claim 13, Thearling discloses the method of claim 9 as applied above. Thearling does not expressly disclose the method of claim 9 further comprising:

directing a subsequent marketing campaign cycle to the new set of users.

Walter et al. disclose the method of claim 9 further comprising:

directing a subsequent marketing campaign cycle to the new set of users (col. 6, line 66 – col. 7, line 9; Figures 8 – 10).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to direct a subsequent marketing campaign cycle to the new set of users because such action is a natural step in improving and refining a marketing campaign to achieve successful and profitable advertising. After a business measures the effectiveness of a marketing campaign, it makes the proper alterations such as refining the customer group or the type of advertisement, etc. and performs the campaign again (col. 7, lines 21 – 32).

As per claim 15, Thearling and Wrobel disclose the method of claim 14 as applied above. Thearling nor Wrobel expressly discloses the user preference corresponding to a prior purchase of a product which is a subject of the marketing campaign.

Walter et al. disclose wherein the user preference corresponds to a prior purchase of a product which is a subject of the marketing campaign (col. 4, line 44 – col. 5, line 25).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a user preference correspond to a prior purchase of a product which is a subject of a marketing campaign because by monitoring customer behavior (such as purchase patterns and products purchased), businesses can perform effective and profitable targeted marketing campaigns (col. 1, lines 39 – 43).

As per claims 22 – 27, Thearling nor Wrobel expressly discloses:

as per claim 22, constructing a presentation to be directed to the particular user or group of users comprising marketing features contained within the subset of marketing features;

as per claim 23, wherein the marketing features comprise a set of different advertisements;

as per claim 24, wherein the marketing features comprise a set of different products which can be marketed at a common;

as per claim 25, wherein the marketing features comprise a set of different potential features of a storefront;

as per claim 26, wherein the marketing features comprise a set of different potential features of a catalog;

as per claim 27, wherein the marketing features comprise a set of different potential features of a shopping experience.

Walter et al. disclose constructing a presentation to be directed to the particular user or group of users comprising marketing features contained within the subset of marketing features (col. 6, lines 47 – 58);

wherein the marketing features comprise a set of different advertisements (col. 6, line 59 – col. 7, line 4; Figures 7 and 8);

wherein the marketing features comprise a set of different products which can be marketed at a common site (col. 4, Table 1);

wherein the marketing features comprise a set of different potential features of a storefront (col. 4, lines 44 – 53). The invention as disclosed by Walter et al. mentions a

customer being able to access a store through three channels: the Web site, the physical store, and the call center;

wherein the marketing features comprise a set of different potential features of a catalog (col. 3, lines 32 – 36; col. 4, lines 1 – 11);

wherein the marketing features comprise a set of different potential features of a shopping experience (col. 3 line 23 – col. 4, line 56; col. 5, lines 28 – 49; Table 1).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to construct a presentation to be directed to the particular user or group of users comprising marketing features contained within the subset of marketing features and further have the marketing features comprise the limitations recited in claims 23 – 27 because by providing a user or group of users with different presentations based on their marketing features through different marketing outlets a business can tailor and test different targeted marketing campaigns which in turn, can afford successful and profitable sales and advertising for the business (col. 7, lines 10 – 24; Figure 10 and 11).

As per claim 31, Thearling discloses the method of controlling the marketing resources of a site

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data (col. 1, line 51 – col. 2, line 28; col. 8, lines 12 – 21; Figures 1 – 3);

providing a user database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at

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least one of: (a) user attributes, (b) user preferences (col. 3, lines 1 – 10; col. 5, lines 24 – 35);

training the data mining engine with a set of training data comprising the user database (col. 1, lines 51 – 65; col. 2, line 66 – col. 3, line 5; col. 8, lines 12 – 21);

inputting to the data mining engine a set of user attributes of the particular user and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes (col. 3, lines 7 – 31).

Wrobel discloses clustering the user database into different segments of users distinguished by different states of a characteristic (col. 2, lines 13 – 17; col. 5, lines 30 – 32; Figure 6; The reference discloses clustering a user database into different groups based on differences of a characteristic.); determining which of the segments found during clustering of the user database has the highest statistical correlation to the predetermined characteristic (col. 1, lines 8 – 18 and 50 – 56; col. 2, lines 18 – 33; The reference discloses determining which cluster groups have the highest statistical correlation to the predetermined characteristic.); and having the subset of marketing features be determined based upon the preferences of the segments statistically correlated to the set of user attributes (col. 2, lines 1 – 9).

Thearling nor Wrobel expressly discloses the method having a real-time user interface during a visit to the site by a particular user.

Walter et al. disclose the method of controlling the marketing resources of a site having a real-time user interface during a visit to the site by a particular user (col. 7, lines 5 – 14; Figures 7 – 9).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the method of controlling the marketing resources of a site have a real-time user interface during a visit to the site by a particular user because the ability to temporally analyze customer interactions provides businesses with specific marketing information about their customers with which the businesses can perform effective marketing campaigns (col. 1, lines 34 – 43).

As per claims 32 – 37, Thearling nor Wrobel expressly discloses, the method of claim 31 further comprising:

- as per claim 32, constructing a presentation to be directed to the particular user comprising marketing features contained within the subset of marketing features;

- as per claim 33, wherein the marketing features comprise a set of different advertisements;

- as per claim 34, wherein the marketing features comprise a set of different products which can be marketed at a common site;

- as per claim 35, wherein the marketing features comprise a set of different potential features of a storefront;

- as per claim 36, wherein the marketing features comprise a set of different potential features of a catalog;

as per claim 37, wherein the marketing features comprise a set of different potential features of a shopping experience.

Walter et al. disclose constructing a presentation to be directed to the particular user comprising marketing features contained within the subset of marketing features (col. 6, lines 47 – 58);

wherein the marketing features comprise a set of different advertisements (col. 6, line 59 – col. 7, line 4; Figures 7 and 8);

wherein the marketing features comprise a set of different products which can be marketed at a common site (col. 4, Table 1);

wherein the marketing features comprise a set of different potential features of a storefront (col. 4, lines 44 – 53). The invention as disclosed by Walter et al. mentions a customer being able to access a store through three channels: the Web site, the physical store, and the call center;

wherein the marketing features comprise a set of different potential features of a catalog (col. 3, lines 32 – 36; col. 4, lines 1 – 11);

wherein the marketing features comprise a set of different potential features of a shopping experience (col. 3 line 23 – col. 4, line 56; col. 5, lines 28 – 49; Table 1).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to construct a presentation to be directed to the particular user or group of users comprising marketing features contained within the subset of marketing features and further have the marketing features comprise the limitations recited in claims 33 – 37 because by providing a user or group of users with different

presentations based on their marketing features through different marketing outlets a business can tailor and test different targeted marketing campaigns which in turn, can afford successful and profitable sales and advertising (col. 7, lines 10 – 24; Figure 10 and 11).

As per claim 38, Thearling discloses the method of claim 31 as applied above and further wherein the marketing features comprise a set of different potential features of a direct mailing (col. 4, lines 25 – 35).

As per claim 39, Thearling discloses the method of claim 31 as applied above and further wherein the marketing features comprise a set of different potential features of a promotion (col. 3, lines 24 – 31).

As per claim 41, Thearling discloses the method of claim 31 as applied above and further wherein inputting is preceded by determining the attributes of the particular user (col. 1, lines 38 – 50).

As per claim 42, Thearling discloses the method of claim 41 as applied above and further wherein the particular user is a member of the user data base, and wherein determining comprises:

classifying the users in the user database (col. 6, lines 1 – 10);

inputting the identity of the particular user to the inferencing engine (col. 5, lines 32 – 35).

As per claim 43, Thearling discloses the method of claim 41 as applied above and further wherein the particular user is a member of the user database, and wherein determining comprises:

inputting the identity of the particular user to the inferencing engine (col. 1, lines 52 – 58; Figure 1A).

Thearling does not expressly disclose clustering the users in the user database into different segments of users having similar characteristics relative to responses to different ones of the marketing features.

Wrobel discloses clustering the users in the user database into different segments of users having similar characteristics relative to responses to different ones of the marketing features (col. 2, lines 1 – 33; col. 5, lines 30 – 32).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to cluster the users in the database into different segments of users having similar characteristics relative to responses to different ones of the marketing features because doing so allows marketing campaigns to identify users who have a predisposition to behave or react in a certain manner, which enables marketing campaigns to effectively and efficiently target the users who will react favorably to the marketing campaigns, thus making the marketing campaigns successful (Wrobel, col. 1, line 66 – col. 2, line 5).

As per claim 44, Wrobel discloses the method of claim 41 as applied above and further wherein determining comprises:

clustering the users in the user data base into different segments of users having similar characteristics relative to responses to different ones of the marketing features (col. 2, lines 1 – 33; col. 5, lines 30 – 32).

Thearling does not expressly disclose observing characteristics of the particular user through a real-time user interface of the site;

assigning the particular user to at least one of the segments based upon the characteristics observed through the interface.

Walter et al. disclose observing characteristics of the particular user through the real-time user interface of the site (col. 7, lines 5 – 14; Figures 7 – 9);

assigning the particular user to at least one of the segments based upon the characteristics observed through the interface (Figures 3 – 6).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to observe characteristics of the particular user through the real-time user interface of the site and assign the particular user to at least one of the segments based upon the characteristics observed through the interface because the ability to temporally analyze customer interactions provides business with specific and timely marketing information about their customers with which the businesses can perform effective marketing campaigns (col. 1, lines 34 – 43).

As per claim 45, Thearling discloses the method of claim 44 as applied above and further wherein some characteristics of the particular user are not observed through the interface, but have been previously determined by grouping for the segment to which the particular user is assigned, whereby the characteristics not observed through the interface are filled in upon assignment of the particular user to a segment (col. 6, lines 1 – 10; col. 8, lines 63 – 67).

Thearling does not expressly disclose clustering.

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Wrobel discloses clustering (col. 2, lines 13 – 17; col. 5, lines 30 – 32; Figure 6; The reference discloses clustering a user database into different groups based on differences of a characteristic.).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply clustering techniques to user databases because doing so allows marketing campaigns to identify users who have a predisposition to behave or react in a certain manner, which enables marketing campaigns to effectively and efficiently target the users who will react favorably to the marketing campaigns, thus making the marketing campaigns successful (Wrobel, col. 1, line 66 – col. 2, line 5).

As per claim 46, Thearling nor Wrobel expressly discloses the method of claim 32 further comprising:

observing through the interface responses of the user to the presentation.

Walter et al. disclose the method of claim 32 further comprising:

observing through the interface responses of the user to the presentation (col. 7, lines 5 – 14; Figures 7 – 9).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to observe through the interface responses of the user to the presentation because doing so provides an accurate and timely manner through which businesses can analyze customer interactions and measure the effectiveness of marketing campaigns (col. 7, lines 22 – 32; Figure 11).

As per claim 47, Thearling nor Wrobel expressly discloses the method of claim 46 further comprising:

comparing a distribution of the observed responses across the marketing features of the presentation to corresponding distributions in different ones of the segments so as to detect any errors in the assignment of the particular user to a segment; and correcting the assignment of the user to a different segment in response to the detection of an error.

Walter et al. disclose comparing a distribution of the observed responses across the marketing features of the presentation to corresponding distributions in different ones of the segments so as to detect any errors in the assignment of the particular user to a segment (col. 7, lines 5 – 36; Figures 9 and 10);

correcting the assignment of the user to a different segment in response to the detection of an error (col. 2, lines 54 – 60; col. 4, lines 29 – 30; col. 7, lines 5 – 9; Figure 9).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to compare observed responses across the marketing features of the presentation and correct the assignment of the user to a different segment in response to the detection of an error because doing so improves the effectiveness of a marketing campaign and therefore increases the opportunity for a business to make a sale (col. 7, lines 14 – 23).

As per claim 48, Thearling discloses the method of claim 47 as applied above and further comprising: based upon the corrected assignment of the user to a new segment, obtaining from the data mining engine a subset of the adaptable marketing

features having the highest correlation to the set of user attributes (col. 8, lines 63 – col. 9, line 8).

As per claim 49, Thearling nor Wrobel expressly discloses the method of claim 48 further comprising modifying the presentation based upon the latest subset of marketing features obtained from the data mining engine, whereby to increase the likelihood of a favorable response by the user.

Walter et al. disclose the method of claim 48 further comprising modifying the presentation based upon the latest subset of marketing features obtained from the data mining engine, whereby to increase the likelihood of a favorable response by the user (col. 4, lines 14 – 18 and lines 29 – 30; col. 7, lines 5 – 36; Figures 9 and 10). Figure 9 specifically shows an interface allowing a business to revise a marketing campaign, therefore depending on the results of a “trial run,” the invention as disclosed by Walter et al. enables a business to revise its marketing campaign before roll out.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to compare observed responses across the marketing features of the presentation and correct the assignment of the user to a different segment in response to the detection of an error because doing so refines and improves the effectiveness of a marketing campaign and therefore increases the opportunity for a business to make a sale (col. 7, lines 14 – 23).

As per claim 50, Thearling discloses the method of claim 49 as applied above and further comprising adding the user and an identification of the user’s assigned segment to the user data base (col. 5, lines 29 – 36; col. 8, line 63 – col. 9, line 8).

As per claim 64, Thearling does not expressly disclose the method of claim 61 further comprising: conducting a subsequent marketing campaign cycles based upon the updated subsets of users and marketing features.

Walter et al. disclose the method of claim 61 further comprising: conducting a subsequent marketing campaign cycle based upon the updated subsets of users and marketing features (col. 4, lines 14 – 30; Figure 2 and 9).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to conduct subsequent marketing campaign cycles based upon the updated subsets of users and marketing features because doing so refines and makes more effective the marketing campaign which, in turn, affords a business more successful and profitable sales and advertising (col. 7, lines 10 – 24; Figure 10 and 11).

7. Claims 51, 52 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Walter et al. (U.S. 6,334,110).

As per claim 51, Walter et al. disclose a marketing management system, comprising:

a data warehouse storing a user database correlating individual users with observed characteristics comprising at least one of user attributes and user preferences and with observed responses to a set of marketing features (col. 4, lines 14 – 30; Figure 2);

a profiler comprising a data mining engine constructed with training data comprising the user database (col. 2, lines 25 – 35; col. 4, lines 32 – 40; Figure 5);

a personalization system for tagging individual users with labels from which user characteristics may be inferred (col. 6, lines 13 – 46; Figure 6); and

a personalized application component responsive to the profiler and to the personalization system and which correlates a user with a subset of the marketing features based upon the user's characteristics, said personalized application component comprising:

a real-time user interface with the user (Figures 4 – 11); and

a feedback component for capturing observed responses of the user to the marketing campaign through the user interface and feeding them to the data warehouse for processing by the data mining engine of the profiler (col. 4, lines 14 – 18; col. 6, lines 13 – 65; Figures 4 – 8).

As per claim 52, Walter et al. disclose the marketing management system of claim 51 wherein the subset of marketing features corresponds to a maximum probability of a favorable response by the user in accordance with the training data (Figures 4 – 6).

As per claim 54, Walter et al. disclose a marketing management system, comprising:

a data warehouse storing a user data base correlating individual users with observed characteristics comprising at least one of user attributes and user preferences (col. 4, lines 14 – 30; Figure 2);

a profiler comprising a data mining engine constructed with training data comprising the user data base (col. 2, lines 25 – 35; col. 4, lines 32 – 40; Figure 5);

a personalization system for tagging individual users with labels from which user characteristics may be inferred (col. 6, lines 13 – 46; Figure 6); and

a marketing management console responsive to the profiler and to the personalization system and which correlates a set of user characteristics selected based upon a product which is to be marketed in the marketing campaign with a subset of the users in the user data base having a maximum probability of favorable response to the marketing campaign directed toward the set of user characteristics in accordance with the training data (col. 4, lines 14 – 18; Figures 4 – 6); and

a feedback component for capturing observed responses to the marketing campaign and feeding them to the data warehouse for processing by the data mining engine of the profiler (col. 6, lines 13 – 65; Figures 7 and 8).

Response to Arguments

8. Applicant's arguments are moot in view of the new grounds of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Agrawal et al. (U.S. 5,794,209) discusses a system and method for discovering consumer purchasing tendencies;
- Sheppard (U.S. 6,026,397) discusses a system and method for analyzing data records; and

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- Almasi et al. (U.S. 6,260,036) discusses a method and apparatus for retrieving and organizing data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Michelle Colon whose telephone number is 703-605-4251. The examiner can normally be reached Monday – Thursday from 8:30am to 5:30pm and every other Friday from 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached at 703-305-9643.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington D.C. 20231

or faxed to:

703-305-7687 [Official Communications; including After Final
communications labeled "Box AF"]

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703-746-7202

[For status inquiries, draft communication, labeled


"Proposed" or "Draft"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive,
Arlington, VA 7th floor receptionist.



CMC

August 14, 2002



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